

IN THE CLAIMS

1. (currently amended) A bearing current reduction assembly comprising:

a rotor shaft;

an inner bearing cap substantially radially aligned with said rotor shaft, said inner bearing cap comprising an inner end, said inner end in close proximity to said rotor shaft; and

a charge concentrator disposed on ~~at least one of said rotor shaft and said inner end~~, said charge concentrator positioned between said rotor shaft and said ~~inner end~~ inner end, and said charge concentrator comprising a sharp edge.

2. (original) An assembly according to Claim 1 wherein said charge concentrator includes an edge having a small radius to concentrate electrical charge thereon.

3. (original) An assembly according to Claim 1 wherein said inner end is within approximately 0.005 inch from said rotor shaft.

4. (original) An assembly according to Claim 1 wherein said inner bearing cap comprises an aluminum alloy.

5. (canceled)

6. (original) An assembly according to Claim 1 wherein said inner end comprises said charge concentrator.

7. (currently amended) An electric motor assembly comprising:

a motor housing;

a stator mounted in said housing and comprising a bore therethrough;

a rotor core rotatably mounted in said housing and extending through said stator bore;

a rotor shaft extending through said rotor core;

~~at least one endshield;~~

an inner bearing cap radially aligned with said rotor shaft, said inner bearing cap having an inner end and an outer end, said inner end in close proximity to said rotor shaft; and

a charge concentrator disposed on ~~at least one of said rotor shaft and said inner end;~~ shaft, said charge concentrator positioned between said rotor shaft and said inner end; inner end, said charge concentrator comprising a sharp edge, said charge concentrator separated from said inner bearing cap by a clearance configured to facilitate a current flow between said rotor shaft and said stator.

8. (original) An electric motor assembly according to Claim 7 wherein said charge concentrator includes an edge having a small radius to concentrate electrical charge thereon.

9. (original) An electric motor assembly according to Claim 7 wherein said inner end is within approximately 0.005 inch from said rotor shaft.

10. (original) An electric motor assembly according to Claim 7 wherein said inner bearing cap comprises an aluminum alloy.

11. (original) An electric motor assembly according to Claim 7 wherein said rotor shaft comprises said charge concentrator.

12-15. (canceled)

16. (currently amended) A bearing current reduction assembly comprising:

a rotor shaft;

a bearing supporting said rotor shaft;

an inner bearing cap substantially radially aligned with said rotor shaft, said inner bearing cap including an inner end and an outer end, said inner end spaced from said rotor shaft; and

a charge concentrator extending from ~~at least one of said rotor shaft and said inner end defining a clearance between said rotor shaft and said inner end,~~shaft, said charge concentrator including a sharp edge, said charge concentrator separated from said inner bearing cap by a clearance between said charge concentrator and said rotor shaft, and said clearance configured to facilitate a current flow between said rotor shaft and a stator.

17. (previously presented) A bearing current reduction assembly according to Claim 16 wherein said charge concentrator includes a small radius to form said sharp edge.

18. (previously presented) A bearing current reduction assembly according to Claim 16 wherein said charge concentrator is configured to generate a higher electrical field concentration through said clearance than through said bearing.

19. (previously presented) A bearing current reduction assembly according to Claim 16 wherein said clearance is up to 0.005 inches.

20. (previously presented) A bearing current reduction assembly according to Claim 16 wherein said clearance is at least 0.005 inches.

21. (previously presented) A bearing current reduction assembly according to Claim 16 wherein said inner bearing cap comprises an aluminum alloy.

22. (previously presented) A bearing current reduction assembly according to Claim 16 wherein said rotor shaft comprises said charge concentrator.

23. (canceled)

24. (new) An electric motor assembly according to Claim 7 further comprising a bearing positioned between said inner bearing cap and an endshield included within said motor housing.